Remarks/Arguments

35 U.S.C. §103

Claims 1-4, 6-9, and 11-14, stand rejected under 35 U.S.C. §103(a) as being unpatentable over Saunders (U.S. Patent No. 6,091,703), in view of Ortega (U.S. Patent No. 2002/0087991), in view of Tanabe (U.S. Patent No. 5,918,156).

Applicant first notes that a minor amendment has been made to claim 1 to change the plural "satellites" to the singular "satellite" to correspond to the remainder of the previously amended claim.

The present invention, as recited by claim 1, describes an outdoor unit for a satellite television ground system comprising: downlink circuitry operative to receive a satellite television signal from a satellite, frequency lock to the satellite television signal, process the satellite television signal, and provide the processed satellite television signal to an indoor unit of the satellite television ground system; and uplink circuitry operative to receive an uplink signal from the indoor unit, process the received uplink signal, and transmit the processed uplink signal to the satellite only when said downlink circuitry is simultaneously receiving said satellite television signal from said satellite and is frequency locked to said satellite television signal from said satellite.

It is respectfully asserted that none of Saunders, Ortega, or Tanabe, alone or in combination, disclose transmission of "the processed uplink signal to the satellite only when said downlink circuitry is receiving said satellite signal from said satellite and is frequency locked to said satellite signal from said satellite," as described in currently amended claim 1.

Saunders teaches a communications system that is used for "processing at least one uplink channel contained in at least one uplink beam (112) transmitted to a satellite (106). The communications system (100) includes at least one user terminal (110) that extracts a system clock, a synchronization word, and timing correction information from a downlink beam transmitted by a satellite. The user terminal includes a timing controller (226) that aligns uplink channel transmissions by generating a system clock based on the downlink

symbol clock, said synchronization word, and said timing correction information. The user terminal includes at least one spread-spectrum spreader (254) for encoding at least one uplink channel, and a transmitter connected to the spread-spectrum spreader (254) for transmitting said at least one uplink channel in an uplink beam (112)." (Saunders Abstract)

The Office Action asserts that Saunders discloses "an outdoor unit for a satellite ground system comprising: downlink circuitry operative to receive a satellite signal from a satellite (figure 1), frequency lock to the satellite signal (column 5, lines 66-67; column 6, lines 1-4), process the satellite signal (bottom half of figure 2), and provide the processed satellite signal to an indoor unit of the satellite ground system (column 8, lines 38-43); and uplink circuitry operative to receive an uplink signal from the indoor unit, process the received uplink signal (column 6, lines 39-42), and transmit the processed uplink signal to the satellite only when said downlink circuitry is receiving said satellite signal from said satellite and is frequency locked to said satellite signal from said satellite (column 4, lines 25-31)." (Office Action, pages 2-3) The Office Action admits that "Saunders does not disclose a system wherein the satellite signals are satellite television signals; and wherein the system simultaneously transmits and receives data." (Office Action, page 3)

Saunders describes a system wherein "before transmitting, the user terminal monitors a downlink beach broadcast by the satellite to acquire initial timing information." (Col. 2, lines 52-57) This initial timing information is then used to generate a common symbol transmit rate for the uplink data in the uplink channel. (Col. 6, lines 6-9) Only after the common symbol transmit rate is established is the system of Saunders ready to transmit the uplink channels to the satellite.

Saunders does not teach or suggest that the uplink signal is conditioned on the simultaneous reception and frequency locking of a downstream signal as taught by the present invention as recited in claim 1. Saunders addresses the problem of simultaneous uplink by a plurality of user stations to a single satellite using CDMA techniques. In contrast, the present invention describes selective activation of the uplink during periods where locking of a downstream signal has been achieved from one of a possible plurality of LEO or MEO satellites, as described in the specification on page 2, lines 1-10. Thus, it is

respectfully submitted that Saunders fails to disclose transmission of "the processed uplink signal to the satellite only when said downlink circuitry is receiving said satellite signal from said satellite and is frequency locked to said satellite signal from said satellite," as described in currently amended claim 1.

Ortega teaches a system and method of "common synchronization for bursts transmitted over an uplink connection in an integrated multispot satellite communication system (S) in a multimedia broadcasting network for setting up bi-directional communication with a satellite with return channel. The common burst synchronization (4) is produced in such a way that the transmission rate in the downlink direction (P2; U2; C2) from the satellite is a whole multiple of the network clock reference." (Ortega Abstract)

The Office Action asserts that Ortega discloses "a system wherein the satellite signals are satellite television signals (paragraph 27)." (Office Action, page 3)

Ortega does not teach or suggest, nor does the Office Action assert that it teaches or suggests, that the uplink signal is conditioned on the simultaneous reception and frequency locking of a downstream signal as taught by the present invention as recited in claim 1. Therefore, Ortega, like Saunders, fails to disclose transmission of "the processed uplink signal to the satellite only when said downlink circuitry is receiving said satellite signal from said satellite and is frequency locked to said satellite signal from said satellite," as described in currently amended claim 1.

Tanabe teaches a method where "a satellite communication system broadcasts an information signal from a transmitting station to a plurality of receiving stations via a communication satellite. An answer station is provided among a plurality of receiving stations which are located in a predetermined geographical area. The answer station and the plurality of receiving stations in the designated group are connected by a ground data link. The answer station collects status data of each of the receiving stations to transmit an answer signal to the transmitting station on behalf of the group of receiving stations, so that a transmitting function for each of the receiving stations can be eliminated. The answer

station can also act as one of the receiving stations in the designated group." (Tanabe Abstract)

The Office Action asserts that Tanabe discloses "a system wherein the system simultaneously transmits and receives data (column 2, line 63 to column 3, line 7; Note: the applicant's Specification (page 24, lines 1-15) detail that the uplink only transmits when the downlink signal is received, as is taught by Tanabe.)." (Office Action, page 3)

Tanabe relates to a "satellite communication system for broadcasting, in which there is return of an answer signal, such as for confirming reception of an information signal or for requesting retransmission, after the information signals are transmitted to the receiving side." (Tanabe, column 1, lines 21-25, emphasis added) The object of Tanabe is to "reduce the cost of a satellite communication system using an ARQ system." (Tanabe, column 1, lines 65-67) Tanabe achieves this cost reduction through the use of a single transmitting station associated with multiple receiving stations.

In contrast, the present invention relates to bidirectional communication with LEO/MEO satellite systems where subscriber equipment tracks multiple non-geosynchronous satellites. A goal of the present invention is to limit uplink transmission to times when "a receiver is locked with the uplink satellite to insure that the uplink power amplifier does not spew signal all over the heavens." (Specification, page 4, lines 23-25)

Tanabe describes transmission of acknowledgement signals or requests for retransmission after reception without regard for a signal lock with a satellite. Tanabe does not describe or address the problems associated with uplink to non-geosynchronous satellites. Specifically, Tanabe does not describe transmission only when downlink circuitry is locked and receiving. Tanabe describe transmission after reception, without regard to whether reception is still occurring.

Therefore, Tanabe, like Saunders and Ortega, fails to disclose transmission of "the processed uplink signal to the satellite only when said downlink circuitry is receiving said

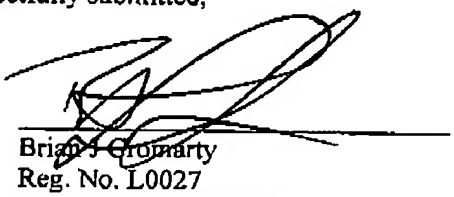
satellite signal from said satellite and is frequency locked to said satellite signal from said satellite," as described in currently amended claim 1.

In view of the above remarks and amendments to the claims, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Saunders, Ortega, or Tanabe, alone or in combination, that makes the present invention as claimed in currently amended claim 1 unpatentable. It is also respectfully submitted that independent claims 6 and 11 are allowable for at least the same reasons as claim 1. Since dependent claims 2-5, 7-10, and 12-15 are dependent from allowable independent claims 1, 6, and 11, it is submitted that they too are allowable for at least the same reasons that their respective independent claims are allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,



By: Brian J. Cromarty
Reg. No. L0027
Phone (609) 734-6804

Patent Operations
Thomson Licensing LLC
P.O. Box 5312
Princeton, New Jersey 08543-5312
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